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MEMORANDUM

To: Members of the Subcommittee on National Security, Emerging Threats, and International Relations

From: Kristine K. McElroy

Subject: Briefing Memorandum for the field hearing, *Assessing September 11th Health Effects: What Should Be Done?"* scheduled for Tuesday, October 28, 2003, at 10:00 a.m. in the Goldwurm Auditorium of the Mount Sinai Medical Center, 1425 Madison Avenue (Madison Ave. and 98th St.), 1st floor, New York, NY.

PURPOSE OF THE HEARING

The purpose of the hearing is to examine what is known about the short and long term health effects of the September 11th attack on those who worked at Ground Zero and live there today. The hearing will also look at steps the federal and local government have taken to investigate any health effects and to provide treatment for those injured.

HEARING ISSUES

1. **What is known about the short and long term health effects of the September 11th attack on those who worked at Ground Zero and live there today?**

2. **How effective are the steps taken by the federal and local government to investigate health effects and provide treatment for those injured?**

BACKGROUND

The events of September 11, 2001 brought out the best in the people of New York City and surrounding areas who volunteered their time and energy to help victims and their families. Firemen, police officers, emergency medical service personnel, volunteers and other workers labored tirelessly to search for victims in the World Trade Center rubble, and assist in the clean up efforts, many unknowing, or unwilling to prioritize their own safety from potential debris hazards in the process.

The collapse of the World Trade Center towers along with the fires burning at Ground Zero produced an excessive amount of dust and smoke. Various sizes of particulate matter floated in the air and blanketed the New York City streets. Fires burned under the debris until the middle of December 2001. A mixture of plastics, metals, and other chemicals and products burned or decomposed into very fine particles. The content of the plume varied centimeter by centimeter. Some researchers found one molecule that had never been found in the air before. **(Attachment 1, p. 1)**

According to Paul Lioy, of the Environmental and Occupation Health Sciences Institute of the University of Medicine in New Jersey, "Initial exposures were basically a blackout- exposures people will, cumulatively, never see in a lifetime again. The problem we have now is we don't know the long-term, lifetime, health consequences. We just don't know." **(Attachment 1, p. 1)**

Two years after September 11, 2001 questions remain about the short and long term health effects of the attack on the World Trade Center. While air monitoring results from various government agencies including the

Environmental Protection Agency (EPA), the Occupational Safety and Health Administration (OSHA), and the National Institute for Occupational Safety and Health (NIOSH) found only a limited amount of samples with elevated levels of toxins, many workers, volunteers and fireman at the World Trade Center sites experienced respiratory symptoms while working at Ground Zero and continue to experience symptoms. **(Web Resource 1, p. 3)**

Environmental Protection Agency (EPA)

The Environmental Protection Agency conducted air sampling to test for fine particles, asbestos, volatile organic compounds, silicates, PCBs, lead, benzene, dioxin and chromium at and near the World Trade Center site. The samples were evaluated against a variety of standards designed to protect public health. **(Web Resource 1, p. 3)**

EPA did find elevated levels of some substances in the smoke from the fires at Ground Zero, but the levels dropped a few feet away from the source of the smoke. When the fires stopped, levels fell significantly below EPA's benchmarks. **(Web Resource 2, p. 7)**

According to a September 13, 2001 EPA press release, "Sampling of ambient air quality found either no asbestos or very low levels of asbestos. Sampling of bulk materials and dust found generally low levels of asbestos." **(Web Resource 3)** Of the more than 9,500 samples eventually collected, 21 measured above the level of concern for asbestos. However, EPA did not believe the high concentrations of asbestos were alarming since current medical standards indicate a person would have to inhale high concentrations of asbestos over time before illness would occur. **(Web Resource 2, p. 6)**

In an October 2002 draft report from EPA entitled, *Exposure and Human Health Evaluation of Airborne Pollution from the World Trade Center,* EPA noted the following three findings:

> 1) Persons exposed to extremely high levels of ambient particulate matter and its components during the collapse of the World Trade Center towers and for several hours afterwards were likely to be at risk for immediate acute (and possibly chronic) respiratory and other types (e.g., cardiovascular) of

symptoms. 2) The first measurements of some of the contaminants were on September 14, while other contaminants were not measured until September 23. Available data suggest that the concentrations within and near Ground Zero were likely to be highest in the few days following September 11. Because there are only limited data on these critical few days, exposures and potential health impacts cannot be evaluated with certainty for this time period. 3) Except for exposures on September 11 and possibly during the next few days, persons in the surrounding community were unlikely to suffer short-term or long-term adverse health effects caused by exposure to elevations in ambient air concentrations of the contaminants evaluated in this report. These elevated concentrations were measured mostly within and near Ground Zero, and they lasted for one to three months after September 11. The monitoring data indicate that air concentrations decreased to background levels that are characteristic of pre-September 11 levels in New York City metropolitan area by around January or February of 2002. **(Web Resource 4)**

Occupational Safety and Health Administration (OSHA)

The Occupational Safety and Health Administration (OSHA) is a part of the U.S. Department of Labor and is, "responsible for developing and enforcing workplace safety and health regulations." **(Web Resource 5)** OSHA was actively involved in assisting at the World Trade Center site after September 11, 2001. The mission of OSHA was, "to safeguard the health and safety of the recovery workers."**(Web Resource 5)**

OSHA took the first of more than 6,500 air samples in lower Manhattan, and coordinated air-sampling efforts with other federal, city and state environmental and health organizations. According to Richard Mendelson, Area Director of the Manhattan OSHA Office, "By the 13th, we were conducing air and bulk sampling in the Financial District and other areas in an effort to characterize air quality." **(Web Resource 6, p. 10)** OSHA monitoring results showed asbestos levels to be below accepted levels. However, OSHA recommended anyone working within 25 feet of the debris pile or downwind of the site wear respiratory protection. To assist in this effort, OSHA became the lead organization to distribute respirators on September 20, 2001. **(Web Resource 6, pp. 12-15)**

National Institute for Occupational Safety and Health (NIOSH)

The National Institute for Occupational Safety and Health (NIOSH) is a part of the Centers for Disease Control and Prevention (CDC) and is responsible for "conducting research and making recommendations for the prevention of work-related injury and illness." **(Web Resource 5)**

NIOSH received requests for Health Hazard Evaluations (HHE) from labor unions representing workers employed in areas near the World Trade Center (WTC) site in January 2002. Workers had complained of chronic physical and mental health symptoms they believed were caused by exposures from the World Trade Center collapse and the resulting fires. **(Web Resource 7, pp. 8)**

In response to these requests, NIOSH conducted health surveys of workers at four different sites including a City College, New York City (NYC) office buildings, the Metropolitan Transit Authority (MTA) and New York City Transit. These surveys were then compared with survey results from workers who had similar office environments but were located five or more miles from the WTC site. The results of the employee surveys showed workers employed near the WTC site had significantly higher rates of physical and mental symptoms than worker employed five miles or more from the WTC site. **(Web Resource 7, pp. 8-9)**

According to NIOSH,

> These symptoms persisted in some individuals for at least nine months after the attack on the WTC and may have been due to exposure to complex environmental contaminants (e.g., smoke, respirable airborne particles, fine dust, and fire combustion products) from the collapse of the towers and ensuing fires. An understandable limitation at the time of the collapse of the WTC was the lack of initial environmental exposure assessment, thus we do not know the scope or extent of exposure at that time. Sampling by NIOSH, between September 18th and October 4th, to evaluate exposure for those working in the rescue and recovery operation found few of the measure substances that exceeded occupational standards. However, little is known about the health effects from complex

exposures such as occurred as a result of the WTC collapse and subsequent ongoing fires. **(Attachment 2, p. 8)**

World Trade Center Health Registry

The New York City Department of Health and Mental Hygiene (DOHMH), the federal Agency for Toxic Substances and Disease Registry (ATSDR), and the Federal Emergency Management Agency (FEMA) have established the World Trade Center Health Registry to track the physical and mental health problems of people exposed to the fire and smoke caused by the destruction of the World Trade Center towers. **(Web Resource 8, p. 2)**

The registry is open to up to 200,000 people who were living south of Canal Street on 9/11/03, students and staff at schools or day care centers south of Canal Street, workers involved in the rescue, recovery, or clean up at the WTC site or WTC recovery operations on Staten Island between 9/11/01 and 6/30/02, as well as those people who were in a building, on the street, or on the subway south of Chambers street on 9/11/01. **(Web Resource 9)**

Approximately 12,900 people have enrolled in the registry, and 6,000 have completed the 30-minute telephone survey. People who join the registry are interviewed about where they were on September 11, 2001, their exposure to smoke and dust and any health problems they have suffered since. Registrants will be periodically contacted over time by the NY City DOHMH to monitor any changes in health. This information will be compared with the general population in order to identify any health problems linked to September 11, 2001. **(Attachment 3, p. 2)**

The registry has been funded for fiscal year 2003 at a cost of $20 million. The registry is planned to continue over 20 years in order to track changes in health over time. **(Attachment 3, pp. 3-4)**

Health Screening

The Mount Sinai-Irving J. Selikoff Center for Occupational and Environmental Medicine received $12,000,000 in federal funding from NIOSH to establish the World Trade Center Worker and Volunteer Medical Screening Program.[1] The program was established to evaluate health

[1] Public Law 107-117, January 10, 2002

problems and hazardous exposures experienced by worker and volunteer responders to the World Trade Center attack on September 11, 2001. Federal funding for the program will support a total of 9,000 medical screening examinations, of which 2,500 will be done at facilities other than Mount Sinai under the auspices of the Association of Occupational and Environmental Clinics (AOEC). As of January 23, 2003, approximately 3,513 individuals have been examined. **(Attachment 4, p. 1)**

House Conference Report 108-10 granted an additional $90,000,000 to be made available for administering "baseline and follow-up screening and clinical examinations and long-term health monitoring and analysis for emergency services personnel and rescue and recovery personnel, of which not less than $25,000,000 shall be made available for such services for current and retired firefighters." The funding will be distributed through NIOSH and will be open for competition. **(Attachment 5, p. 2)**

DISCUSSION OF HEARING ISSUES

1. What is known about the short and long term health effects of the September 11th attack on those who worked at Ground Zero and live there today?

Several studies have been done to look into the health effects of September 11, 2001. A study published in the September 12, 2002 issue of the New England Journal of Medicine by Dr. David J. Prezant, Deputy Chief Medical Officer of the New York City Fire Department (FDNY), Dr. Michael Weiden, Medical Officer for the FDNY and other researchers examined FDNY workers who were exposed to air pollutants after the collapse of the World Trade Center. Approximately 332 firefighters were examined who had developed severe cough after exposure. This severe cough was named "World Trade Center cough" and was defined as, "a persistent cough that developed after exposure to the site and was accompanied by respiratory symptoms severe enough to require medical leave for at least four weeks." **(Attachment 6, p. 1)**

The results of the study showed in the first six months after September 11, 2001, World Trade Center cough occurred in 128 of 1636 firefighters with a high level of exposure (8 percent), 187 of 6958 with a moderate level of exposure (3 percent), and 17 of 1320 with a low level of exposure (1

percent). A high level of exposure occurred if the firefighters had arrived at the scene during the collapse of the World Trade Center, a moderate level of exposure occurred if the firefighter arrived after the collapse but within the first two days, a low level of exposure occurred if the firefighter had arrived between days 3 and 7, and no exposure occurred if the firefighter was not at the site during at least the first two weeks of the rescue operation. The likelihood of World Trade center cough was related to the magnitude of exposure. Other findings include 95 percent of FDNY workers had shortness of breath, 87 percent had gastroesophageal reflux disease, and 54 percent had nasal congestion. **(Attachment 6, p. 1)**

As of August 28, 2002, 358 firefighters and five EMS workers remained on medical leave or light duty assignment because of respiratory illness that occurred after WTC exposure. An estimated 500 FDNY firefighters may qualify for disability retirement because of persistent respiratory conditions. **(Web Resource 7, pp. 4-5)**

The conclusion of this study was, "Intense, short term exposure to materials generated during the collapse of the World Trade Center was associated with bronchial responsiveness and the development of cough. Clinical and physiological severity was related to the intensity of the exposure." **(Attachment 6, p. 1)** The study also found cough suppressants, antibiotics and inhaled corticosteroids to be effective treatments. **(Attachment 6, p. 3)**

An interim report by the Mount Sinai-Irving J. Selikoff Center for Occupational and Environmental Medicine, World Trade Center Worker and Volunteer Medical Screening Program summarized the data on a random sample of 250 of the first 500 patients from July16-August 29, 2002. **(Attachment 4, p. 1)** Preliminary findings indicated half the sample had experienced persistent WTC-related pulmonary, ENT and/or mental health symptoms 10 months to one year following the September 11 attacks. **(Web Resource 10, p. 1)** According to Dr. Levin, Co-Director for the program, "The findings also point to the need for treatment resources and for short- and long-term follow up. The earlier these WTC-related illnesses are detected and treated, the more likely the treatment will prevent long-term illness and disability." **(Web Resource 10, p. 1-2)**

As we saw with Gulf War veterans of Operation Dessert Storm, Ground Zero veterans can suffer the delayed casualties caused by toxic

exposures. Federal, State and local health systems have to be vigilant in diagnosing and treating those wounds. The health effects from September 11, 2001 are important to note since disasters of a similar scale may occur in the future. By learning how to minimize exposures, maximize safety, and decrease risk we will be better prepared for future events.

2. How effective are the steps taken by the federal and local government to investigate health effects and provide treatment for those injured?

While some steps have been taken by the federal and local government to investigate health effects, there is concern the programs do not go far enough and do not provide treatment for the injured. Funding for treatment is lacking. Some of the workers at the World Trade Center site have lost their jobs due to serious respiratory health effects, and do not have health insurance. While some are receiving workers compensation due to their illnesses, they are concerned about the long term costs of their care. They are worried about their long term health and the ability to receive the treatment they need in the future. **(Attachment 7, pp. 1-3)**

The World Trade Center Health Registry was established to examine long-term health effects from September 11, 2001. However some question the usefulness of the registry and the commitment on the part of the government to keep it running since it is currently funded for FY 2003, and will need future funding to keep it running for another 19 years.

There is also a significant amount of distrust among people who are experiencing health effects since September 11, 2001 because government agencies had pronounced the air quality to be safe due to air monitoring results. Officials at the FDNY have resisted efforts to hand over health data collection efforts to the government. Instead FDNY officials prefer to track and monitor the health of firefighters.

Dr. Robin Herbert, Co-Director of the World Trade Center Worker and Volunteer Medical Screening Program will testify about health findings from the screening program.

Dr. Michael Widen, Medical Officer for the New York Fire Department will testify about research findings regarding firefighter health problems.

Mr. Phil McArdle, Health and Safety Officer of the Uniformed Fighters Association will testify about firefighter health problems.

Mr. Jimmy Willis, Vice Chair for Conductors, Transport Workers Union will testify about some of the health problems he and his fellow workers have been experiencing since September 11, 2001.

Mr. John Graham, Health and Safety Instructor for the Carpenters Union will testify about his health problems since September 11, 2001.

Mr. David Rapp, former worker at the World Trade center site will testify about the health problems he has experienced since working at the WTC site.

Dr. Paul Gilman, Assistant Administrator for Research and Development, Environmental Protection Agency (EPA) will testify about the role EPA played in evaluating hazards from the World Trade Center Site.

Ms. Diane Porter, Deputy Director for the National Institute for Occupational Safety and Health (NIOSH) will testify about the results of Health Hazard Evaluations done by NIOSH to examine health effects on workers employed near the World Trade Center Site.

Ms. Pat Clark, Area Office Director for the New York City, Occupational Safety & Health Administration will testify about the role OSHA played in safeguarding the health and safety of recovery workers.

Dr. Thomas R. Frieden, Commissioner for the New York City Department of Health and Mental Hygiene will testify about the status of the World Trade Center Health Registry.

ATTACHMENTS

1. Laurie Garrett, "A Chemical Factory In Skies," *New York Newsday.com* September 11, 2003.

2. NIOSH Health Hazard Evaluation interim report. HETA 2002-0101, October 23, 3002.

3. Lynda Richardson, "A Public Health Warrior, Tracking 9/11 Trends," *The New York Times*, October 3, 2003.

4. World Trade Center Worker and Volunteer Medical Screening Program, Report of Initial Findings To the National Institute For Occupational Safety and Health of the Centers For Disease Control and Prevention, January 24, 2003.

5. House Report 108-10, Conference Report on Consolidated Appropriations for FY 2003 (P.L. 108-7).

6. David J. Prezant, M.D., et. al., "Cough and Bronchial Responsiveness in Firefighters at the World Trade Center Site*," The New England Journal of Medicine,* Vol. 347, No.11, September 12, 2002.

7. Greg Sargent, "The City Politic Zero for Heroes," *New York Magazine* October 20, 2003.

WEB RESOURCES

1. Congressional Research Service, Report RL31261 entitled, "Federal Air Quality and Emergency Response Authorities At The World Trade Center Site," January 30, 2002. www.crs.gov
2. U.S. Environmental Protection Agency, EPA Response to September 11, "Oh My God, Look at That Plane." *http://www.epa.gov/wtc/stories/yearreview.htm*
3. EPA September 13, 2001 press release. http://www.epa.gov/wtc/stories/headline_091301.htm
4. U.S. Environmental Protection Agency, National Center for Environmental Assessment, "Exposure and Human Health Evaluation of Airborne Pollution from the World Trade Center Disaster (External Review Draft)," October 1, 2002 http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=54667
5. NIOSH website http://www.cdc.gov/niosh/about.html
6. OSHA report entitled, "Inside The Green Line" http://www.osha.gov/Publications/osha3189.pdf
7. Morbidity and Mortality Weekly Report (MMWR) September 11, 2002/Vol. 51 http://www.cdc.gov/mmwr/PDF/wk/mm51sp.pdf
8. New York City Department of Health and Mental Hygiene Press Release regarding the World Trade Center Health Registry, September 23, 2003 http://www.nyc.gov/html/doh/html/public/press03/pr130-0923.html
9. World Trade Center Health Registry website http://www.nyc.gov/html/doh/html/wtc/about.html
10. Mount Sinai Medical Center Press Release, January 27, 2003 http://www.wtcexams.org/pdf/pressrelease-20030127pdf.pdf